

031104



17264

U.S. PTO

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Pre Application of: Victor G. Hoover et al.

For: IMPROVED DESULFURIZATION PROCESS

17510 U.S. PTO
10/798821

031104

LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attached hereto for filing in the United States Patent and Trademark Office is the patent application identified above. This application 10 sheet(s) of drawings.

The filing fee has been computed as follows:

Basic Fee	\$770.00
Additional Fees:	
Total Number of claims (whether independent or dependent over 20, times \$18.00	1368.00
Number of independent claims over 3, times \$86.00	258.00
Multiple Dependent Claims (\$290)	000.00
TOTAL Filing Fee	2,396.00

Please charge Deposit Account 16-1575 in the amount of the total filing fee stated above. The Commissioner is hereby authorized to charge any additional fees which may be required under 37 CFR 1.16 or 37 CFR 1.17, or credit any overpayment, to Deposit Account 16-1575, but is not authorized to charge any fee provided for under 37 CFR 1.18.

If the Examiner wishes to contact representatives of record concerning the accompanying application prior to the first Official Action, such contact should be made with the undersigned.

The following 14 items, which do not disclose or suggest the present invention, are called to the Examiner's attention.

U.S. 4,021,078 – (Hutar et al., 05/03/97)
U.S. 4,095,847 – (Wear, 06/20/78)
U.S. 4,115,070 – (Jukkola et al., 09/19/78)
U.S. 4,185,942 – (Bazan, 01/29/80)
U.S. 4,818,152 – (Lawall, 04/04/89)
U.S. 5,027,835 – (White, 07/02/91)
U.S. 5,240,355 – (Hudalla, 08/31/93)
U.S. 2,463,623 – (Huff, 03/08/49)
U.S. 2,915,459 – (Kirkbride et al., 12/01/59)
U.S. 3,231,326 – (Stine et al, 01/25/66)
U.S. 5,451,313 – (Wegerer et al., 09/19/95)
U.S. 5,578,093 – (Campbell et al., 11/26/96)
U.S. 5,447,702 – (Campbell et al., 09/05/95)
U.S. 5,716,516 - (Micklich, 02/10/98)

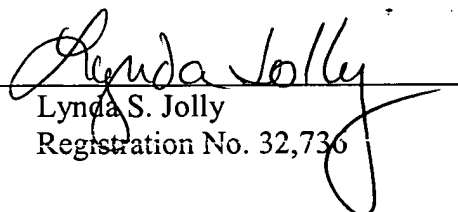
The following three items are brought to the Examiner's attention. The present invention is a patentable improvement over these items in the recitation of a hydrocarbon desulfurization system that circulates fluidizable solid particles through a fluidized bed reactor, a fluidized bed regenerator, and a fluidized bed reducer to thereby provide for substantially continuous desulfurization of a hydrocarbon-containing fluid system and substantially continuous regeneration of the solid particles. Further, the present invention is a patentable improvement over these three items in the recitation of a novel transport system employed for transporting solid particles between the reactor, the regenerator, and the reducer. This transport system uses close-coupled vessels and gravity flow between various vessels to minimize equipment costs and particle attrition.

U.S. 6,274,031 B1 (Khare et al., 8/14/01)
U.S. 6,056,871 (Khare et al., 05/02/00)

U.S. 5,914,292 (Khare et al., 06/22/99)

Respectfully submitted,
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By


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MAR 11 2004

(Date)


Lynda S. Jolly

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Victor G. Hoover, Max W. Thompson, Darrin D. Barnes, Joe D. Cox,
Philip L. Collins, Christopher LaFrancois, Ronald E. Miranda,
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For: IMPROVED DESULFURIZATION PROCESS

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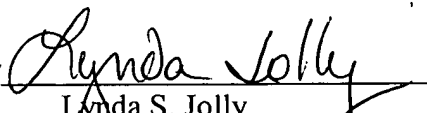
Commissioner for Patents
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Alexandria, VA 22313-1450

Sir:

I hereby certify that this Application is being deposited with the United States Postal
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Respectfully submitted,

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